



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,218	03/01/2005	Hiroya Takaya	2004-1595A	8196

513 7590 01/30/2007
WENDEROTH, LIND & PONACK, L.L.P.
2033 K STREET N. W.
SUITE 800
WASHINGTON, DC 20006-1021

EXAMINER

KIM, TAE JUN

ART UNIT	PAPER NUMBER
----------	--------------

3746

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/526,218

Applicant(s)

TAKAYA ET AL.

Examiner

Ted Kim

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
- 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
- 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 03/01/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. Figures 8, 9 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

5. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the location of the “relevant gap at the end of claim 2.” This recitation is so vague that it renders the claim indefinite.

Claim Rejections - 35 USC § 103

Art Unit: 3746

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP

2003-065071 in view of either JP 63-080021 of the IDS or JP 62-288328. JP '071

teaches a cooling construction of a transition piece of a gas turbine which is characterized

by: having two protrusions 3, 2 mounted vertically to a main stream of a transition piece

122, outside of an inside diameter side of a gas turbine in a neighborhood of an outlet

portion of a transition piece; and having a plate 4 owing a multiple number of holes 6

installed between the said two protrusions by being fixed to both protrusions (see [0021

of the machine translation]. A cooling construction of a transition piece of a gas turbine

which is characterized by: having an impingement-cooling plate 4, which is fixed to both

ends, installed outside an inside diameter side of a gas turbine in a neighborhood of an

outlet portion of a transition piece. JP '071 does not teach only one end is

fixed/cantilevered and the other end is not fixed and sealing a gap between an end of a

relevant impingement-cooling plate which is not fixed and the said transition piece, by

placing an elastic plate between a relevant gap. JP '021 teaches an impingement cover

plate with holes 4 on the outlet portion of the transition piece which possesses one end

which is fixed/cantilevered and sealing a gap between an end of a relevant impingement-

cooling plate which is not fixed and the said transition piece, by placing an elastic plate 11 between a relevant gap. This lowers the heat transfer rate on the said cover plate (see abstract). Alternately, JP '328 teaches an impingement cover plate 2 with holes 4 on the outlet portion of the transition piece which possesses one end which is fixed/cantilevered and sealing a gap between an end of a relevant impingement-cooling plate which is not fixed and the said transition piece, by placing an elastic plate 7 between a relevant gap, in order to reduce the thermal stress. It would have been obvious to one of ordinary skill in the art to make one end fixed and the other end not fixed of the impingement plate, as taught by either JP '021 or JP '328, and to use an elastic plate between a relevant gap, in order to lower the heat transfer rate on the impingement plate and/or reduce the thermal stresses.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-065071 in view of either JP 63-080021 of the IDS or JP 62-28, as applied above, and further in view of Wilhelm, Jr. (3,652,181). JP '071 teaches various aspects of the claimed invention including a plurality number of cooling holes 8 made therein from the right/left to the left/right horizontally, viewed in a direction of combustion gas flow but does not disclose whether they are in a central portion only of the said transition piece. Wilhelm, Jr teaches a transition duct with cooling holes 19 in a central portion only of the said transition piece to optimize temperature profile exiting the transition (col. 2, lines 51+). It would have been obvious to one of ordinary skill in the art to employ the cooling holes only in the central portion, to optimize the temperature profile exiting the transition.

9. Claims 4, 5 are rejected under 35 U.S.C. 103(a) as being obvious over either of the combinations above and further in view of Coslow (3,345,494). The JP '071 reference teaches various aspects of the claimed invention but do not teach the end portions confronting relevant transition piece seals have protrusions mounted respectively in a manner that relevant protrusions overlap each other. However, this is a well known construction in the transition duct art, as evidenced by Coslow, who teaches end portions confronting relevant transition piece seals have protrusions 52, 36 mounted respectively in a manner that relevant protrusions overlap each other to reduce the leakage past the seals (col. 2, lines 26+). It would have been obvious to one of ordinary skill in the art to employ the claimed overlapping protrusions, in order to reduce the leakage past the seals.

Contact Information

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 571-272-4829. The Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

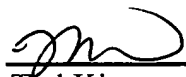
The fax number for the organization where this application is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg, can be reached at 571-272-4828. Alternate inquiries to Technology Center 3700 can be made via 571-272-3700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For

Art Unit: 3746

more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). General inquiries can also be directed to the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at <http://www.uspto.gov/main/patents.htm>



Ted Kim

Primary Examiner

January 22, 2007

Technology Center 3700

Telephone 571-272-4829

Fax (Regular) 571-273-8300

Fax (After Final) 571-273-8300

Telephone 571-272-3700